

Claims

1. Method for operating a steam power plant (1, 1') comprising a steam generator (26) and a combustion chamber (60, 86) associated therewith, into which pre-warmed combustion air is fed in addition to a fossil fuel, wherein the combustion air is at least partially released in an output-producing manner after being pre-warmed and before being introduced into the combustion chamber (60, 86).
2. Method according to Claim 1, wherein a pneumatic conveyor (66) provided for compressing the combustion air is driven via the output gained when releasing the pre-warmed combustion air.
3. Method according to Claim 1 or 2, wherein an operating parameter for releasing the combustion air is set on the basis of a characteristic value for the temperature of the combustion air flowing toward the combustion chamber (60, 86).
4. Method according to one of Claims 1 to 3, wherein the combustion air is pre-warmed within the steam generator (26).
5. Method according to one of Claims 1 to 3, wherein the combustion air is pre-warmed via flue gas flowing from a gas turbine (82).
6. Method according to Claim 5, wherein feed water is pre-warmed for the steam generator (26) via the flue gas flowing from the gas turbine (82).

7. Steam power plant (1, 1') comprising a steam generator (26) and a combustion chamber (60, 86) associated therewith for the combustion of a fossil fuel, which is connected on the inlet side to both a fuel pipe (62) and a fresh air pipe (64) for combustion air, wherein
5 in addition to an air pre-warmer (68, 96) an air turbine (70) mounted downstream therefrom is mounted in the fresh air pipe (64).

8. Steam power plant (1, 1') according to Claim 7, wherein the air turbine (70) drives a pneumatic conveyor (66) mounted upstream of
10 the air pre-warmer (68, 96) in the fresh air pipe (64).

9. Steam power plant (1, 1') according to Claim 8, wherein the pneumatic conveyor (66) is designed as an air compressor that can generate an output pressure of approximately 4 to 5 bar.

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10. Steam power plant (1, 1') according to one of Claims 7 to 9, wherein a regulating device (72) assigned to the air turbine (70) is connected on the inlet side to a temperature sensor (74) arranged on the fresh air pipe (64).

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11. Steam power plant (1, 1') according to one of Claims 7 to 10, whose air pre-warmer (68, 96) is arranged within the steam generator (26).

25 12. Steam power plant (1, 1') according to one of Claims 7 to 11, whose air pre-warmer (68, 96) is mounted on the primary side in a flue gas duct (94) downstream of a gas turbine (82).

13. Steam power plant (1, 1') according to Claim 12, wherein a feed water pre-warmer (98) assigned to the steam generator (26) is mounted on the primary side in the flue gas duct (94) downstream of the gas turbine (82).